

Claims

What is claimed is:

1. A pulse count accumulator, comprising:  
a plurality of counters, wherein an input of each counter is coupled to a different one of a plurality of actuators, and wherein a value of each of the counters corresponds to a position of a corresponding one of the plurality of actuators; and  
a communication port in communication with the plurality of counters, wherein the value of each of the plurality of counters is provided to an external device through the communication port.
2. The pulse count accumulator of claim 1, wherein the external device is a microcontroller and the value of each of the plurality of counters is provided to the microcontroller responsive to a pulse count request.
3. The pulse count accumulator of claim 1, wherein the communication port is a serial port.
4. The pulse count accumulator of claim 3, wherein the serial port implements one of a serial peripheral interface (SPI) and an inter-integrated circuit (I2C) interface.
5. The pulse count accumulator of claim 1, wherein each of the plurality of actuators includes a direct current (DC) motor and a gear reduction.
6. The pulse count accumulator of claim 1, wherein each of the plurality of actuators is utilized to position a door in a heating ventilation and air conditioning (HVAC) system to direct air to a desired location and control air recirculation.

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7. The pulse count accumulator of claim 1, wherein the plurality of counters are 8-bit counters.

8. The pulse count accumulator of claim 1, further includes:

a multiplexer coupled between outputs of the plurality of counters and the communication port.

9. A pulse count motor control system, comprising:

a plurality of actuators each including a direct current (DC) motor and a gear reduction; and

a pulse count accumulator, including:

a plurality of counters, wherein each counter is coupled to a different one of the plurality of actuators, and wherein a value of each of the counters corresponds to a position of a corresponding one of the plurality of actuators; and

a communication port in communication with the plurality of counters, wherein the value of each of the plurality of counters is provided to an external device through the communication port.

10. The system of claim 9, wherein the external device is a microcontroller and the value of each of the plurality of counters is provided to the microcontroller responsive to a pulse count request.

11. The system of claim 9, wherein the communication port is a serial port.

12. The system of claim 11, wherein the serial port implements one of a serial peripheral interface (SPI) and an inter-integrated circuit (I2C) interface.

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13. The system of claim 9, wherein each of the plurality of actuators is utilized to position a door in a heating ventilation and air conditioning (HVAC) system to direct air to a desired location and control air recirculation.

14. The system of claim 9, wherein the plurality of counters are 8-bit counters.

15. The system of claim 9, further includes:  
a multiplexer coupled between outputs of the plurality of counters and the communication port.

16. An automotive heating ventilation and air conditioning (HVAC) system, comprising:

a plurality of actuators each including a direct current (DC) motor and a gear reduction, wherein each of the plurality of actuators is utilized to position a door in the HVAC system; and

a pulse count accumulator, including:  
a plurality of counters, wherein each counter is coupled to a different one of the plurality of actuators, and wherein a value of each of the counters corresponds to a position of a corresponding one of the plurality of actuators; and

a communication port in communication with the plurality of counters, wherein the value of each of the plurality of counters is provided to an external device through the communication port.

17. The system of claim 16, wherein the external device is a microcontroller and the value of each of the plurality of counters is provided to the microcontroller responsive to a pulse count request.

18. The system of claim 16, wherein the communication port is a serial port.

19. The system of claim 16, wherein the serial port implements one of a serial peripheral interface (SPI) and an inter-integrated circuit (I2C) interface.

20. The system of claim 16, wherein the plurality of counters are 8-bit counters.

21. The system of claim 16, further including:

a multiplexer coupled between outputs of the plurality of counters and the communication port.

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